

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

REC'D 03 FEB 2005

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Applicant's or agent's file reference P104246PCT	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/GB 03/05293	International filing date (day/month/year) 05.12.2003	Priority date (day/month/year) 10.12.2002	
International Patent Classification (IPC) or both national classification and IPC H04B1/40			
Applicant TTPCOMM LIMITED et al			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

I ☒ Basis of the opinion

II ☐ Priority

III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

IV ☐ Lack of unity of invention

V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

VI ☐ Certain documents cited

VII ☐ Certain defects in the international application

VIII ☐ Certain observations on the international application

Date of submission of the demand 09.06.2004	Date of completion of this report 02.02.2005
Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 </div> </div>	Authorized Officer Avilés Martínez, L Telephone No. +49 89 2399-7170



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB 03/05293**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

Description, Pages

1-8 as originally filed

Claims, Numbers

1-13 received on 29.11.2004 with letter of 24.11.2004

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 12,13

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	4-7,11
	No: Claims	1-3,8-10
Inventive step (IS)	Yes: Claims	
	No: Claims	1-11
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations

**INTERNATIONAL PRELIMINARY
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see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Claims 12 and 13 contain references to the drawings. According to **Rule 6.2(a) PCT**, claims should not contain such references except where absolutely necessary, which is not the case here.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following document:
D1: WO 9 934 625

2. **Lack of novelty, Art. 33(2) PCT**

- 2.1 **Claim 1 :**

The present application does not meet the criteria of Article 33(1) PCT because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

Apparatus for preparing a signal, which has been received at a wireless communications device, to be processed by a receiver which will attempt to recover information conveyed by the signal (page 1, lines 4-8), the apparatus comprising filtering means (page 5, lines 24-27 and fig. 4 (25) and fig. 3b (32, 34)) for filtering the signal in a digital form having samples appearing at a sample rate and adaptation means (page 13, lines 21-23 and fig. 4 (28)) for adjusting the sample rate (page 6, lines 19-28 and page 13, line 29-page 14, line 5), wherein the filtering means is capable of filtering the signal in a first manner which is required when the receiver is of a first type and in a second manner (page 6, line 29-page 7, line 7 and page 9, lines 3-11) which is required when the receiver is of the second type, the adaptation means is arranged to perform adjustments to the sample rate when the receiver is of the second type and not the first type (fig. 4 (28) and page 17, lines 24-32) and the adjustments comprise altering the sample

rate before the signal is filtered (page 6, lines 19-28 and fig. 1 and fig. 4) to permit the filtering means to perform filtering in the second manner and altering the sample rate after the signal has been filtered to provide the signal with a sample rate required by the second type of receiver (page 21, lines 1-7 and fig. 3b (35)).

2.2 Claim 8

The subject-matter of independent Claim 8 corresponds in terms of method steps to the subject-matter of Claim 1. The objections raised in respect to this letter claim, therefore also apply to independent claim 8.

2.3 Dependent claims 2-7 and 9-11 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as follows:

- **Claims 2, 9:** see D1 (page 17, lines 24-32)
- **Claims 3, 10:** see D1 (page 21, lines 8-22 and fig. 3c)
- **Claims 4, 5, 11:**
These claims contain features, each of which is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, see D1 (page 1, lines 4-19 and lines 9-15).
- **Claims 6, 7:**
It is normal practice to use processing stages for signals in mobile telephones.

Certain observations on the international application (Article 6 PCT)

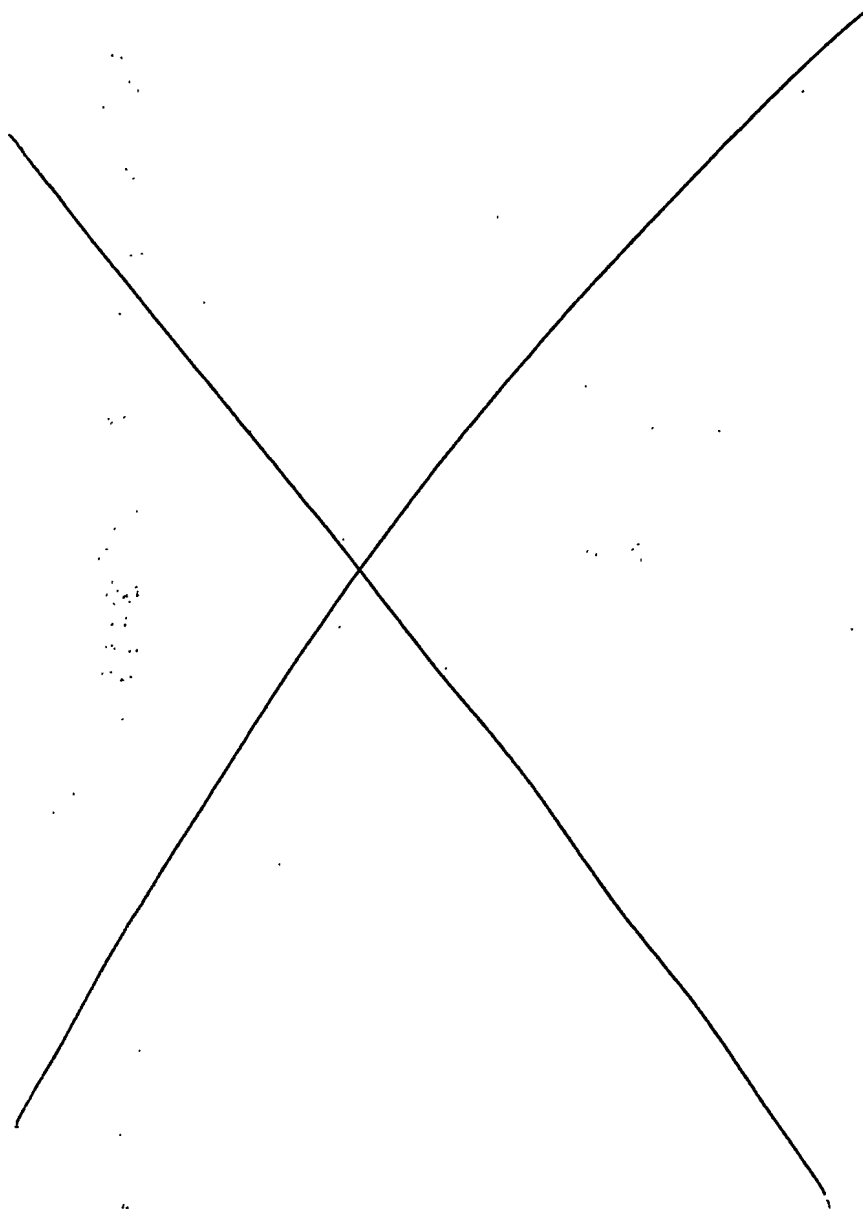
The expression "comprise altering the sample rate before...second type of receiver" in **claim 1** (lines 9-12) is unclear since it relates to a method of using the apparatus rather than clearly defining the apparatus in terms of its technical features.

Certain defects on the international application

The features of the claims are not provided with reference signs placed in parentheses, **Rule 6.2(b) PCT**.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. **PCT/GB 03/05293**



CLAIMS

1. Apparatus for preparing a signal, which has been received at a wireless communications device, to be processed by a receiver which will attempt to recover information conveyed by the signal, the apparatus comprising filtering means for filtering the signal in a digital form having samples appearing at a sample rate and adaption means for adjusting the sample rate, wherein the filtering means is capable of filtering the signal in a first manner which is required when the receiver is of a first type and in a second manner which is required when the receiver is of a second type, the adaption means is arranged to perform adjustments to the sample rate when the receiver is of the second and not the first type and the adjustments comprise altering the sample rate before the signal is filtered to permit the filtering means to perform filtering in the second manner and altering the sample rate after the signal has been filtered to provide the signal with a sample rate required by the second type of receiver.
2. Apparatus according to claim 1, wherein the adaption means is arranged to change to said sample rate by a fractional factor.
3. Apparatus according to claim 1 or 2, wherein the filtering means comprises an FIR filter with adjustable tap coefficients which can be adjusted to allow the filter to perform filtering in the first manner and in the second manner.
4. Apparatus according to claim 1, 2 or 3, wherein the filtering means is arranged to correct errors introduced by the adaption means.
5. Apparatus according to any one of claims 1 to 4, wherein the first type of receiver is a receiver operating according to a 3G telecommunications standard and comprising a rake receiver for operating on the signal and the second type of receiver is a receiver operating according to a 2G telecommunications standard and comprising an equaliser for operating on the signal.

6. A participant for a wireless communications network, the participant comprising the apparatus of any one of claims 1 to 5.
7. A mixed signal section for a participant for a wireless communications network, the mixed signal section comprising the apparatus of any one of claims 1 to 5.
8. A method of preparing a signal, which has been received at a wireless-communications device, to be processed by a receiver which will attempt to recover information conveyed by the signal, the method comprising filtering the signal in a digital form having samples appearing at a sample rate using a filtering means capable of filtering the signal in a first manner when the receiver is of a first type and in a second manner when the receiver is of a second type and making sample rate adjustments to the signal when filtering is to be performed in the second manner but not when filtering is to be performed in the first manner, wherein said adjustments comprise adjusting the sample rate before the signal is filtered to permit the filtering means to perform filtering in the second manner and adjusting the sample rate after the signal has been filtered to provide the signal with a sample rate required by the second type of receiver.
9. A method according to claim 8, wherein said adjustments are arranged to change to said sample rate by a fractional factor.
10. A method according to claim 8 or 9, wherein the filtering means comprises an FIR filter with adjustable tap coefficients which can be adjusted to allow the filter to perform filtering in the first manner and in the second manner.
11. A method according to claim 8, 9 or 10, wherein the first type of receiver is a receiver operating according to a 3G telecommunications standard and comprising a rake receiver for operating on the signal and the second type of receiver is a receiver operating according to a 2G telecommunications standard and comprising an equaliser for operating on the signal.

12. A method of conditioning received communications signals, the method being substantially as hereinbefore described with reference to Figures 1 to 3.
13. Apparatus for conditioning received communications signals, the apparatus being substantially as hereinbefore described with reference to Figures 1 to 3.